

2. (Twice Amended) [A] An isolated polypeptide characterized in that it: [-]

- (a) is free of botulinum toxin activity,
- (b) is free of toxoid, and
- (c) is capable of eliciting, in a mammal, an immunological response that is protective against type F botulinum toxin.

3. (Twice Amended) [A] An isolated polypeptide according to Claim 2 comprising a fragment or a derivative of a heavy chain of a type F botulinum neurotoxin.

4. (Twice Amended) [A] An isolated polypeptide according to Claim 3 wherein said fragment or said derivative is up to 600 amino acids long.

5. (Twice Amended) [A] An isolated polypeptide according to Claim 3 wherein said fragment is selected from the group consisting of:

- (a) amino acids 848-1278 of a type F botulinum toxin, *product*
- (b) amino acids 848-991 of a type F botulinum toxin,
- (c) amino acids 992-1135 of a type F botulinum toxin, and
- (d) amino acids 1136-1278 of a type F botulinum toxin.

6. (Twice Amended) [A] An isolated polypeptide according to Claim 3 wherein said derivative comprises a dimer of the fragment [according to any of (a)-(d) of Claim 5] selected from the group consisting of: *dimer*

- Sub-1
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- (a) amino acids 848-1278 of a type F botulinum toxin,
(b) amino acids 848-991 of a type F botulinum toxin,
(c) amino acids 992-1135 of a type F botulinum toxin, and
(d) amino acids 1136-1278 of a type F botulinum toxin.

6 1 ~~Sub-1~~
(Twice Amended) A polypeptide composition for use in manufacture of a vaccine,
said composition comprising:[-]

- (1) an isolated [a] polypeptide free of toxin activity and capable of inducing, in a
mammal, protective immunity against a botulinum toxin; and
(2) a polypeptide [adapted to facilitate or enhance] that facilitates or enhances
purification of the composition.

6 2 ~~Sub-1~~
(Twice Amended) A polypeptide composition according to Claim 7 comprising:[-]
(1) [a] an isolated polypeptide according to Claim 2; and
(2) [a] an isolated polypeptide [adapted to bind to] that binds a chromatography
column.

6 7
10. (Twice Amended) A polypeptide composition according to Claim 7 comprising an
isolated polypeptide [adapted to bind to] that binds an affinity chromatography column.

6 3 ~~Sub-1~~
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17. (Twice Amended) A method of making a pharmaceutical composition comprising:[-]
(a) expressing in a host cell a DNA encoding a fusion protein, said protein being a
fusion of (i) a polypeptide free of toxin activity and capable of inducing protective immunity